1   **WE CLAIM:**

1   1.   A network switch for resolving requests from a plurality of host initiators by scheduling

     access to a plurality of disk storage devices, the network switch comprising:

3   (a) a switched fabric comprising a plurality of switching elements, each switching

4   element comprising:

5   a plurality of bi-directional switched fabric ports; and

6   a control input connected to receive switch control data for selectively configuring

7   the switching element in order to interconnect the bi-directional switched

8   fabric ports;

9   (b) a memory for storing a routing and scheduling program; and

10   (c) a microprocessor, responsive to the requests, for executing the steps of the routing

11   and scheduling program to generate the switch control data to transmit scheduled

12   requests through the bi-directional switched fabric ports,

13   wherein:

14   at least one of the plurality of switching elements comprises a disk storage interface

15   for connecting to a selected one of the disk storage devices;

16   the microprocessor for scheduling access to the plurality of disk storage devices

17   through the disk storage interface;

18   the disk storage interface for receiving scheduling data from the selected one of the

19   storage devices;

20   the memory for receiving the scheduling data via the bi-directional switched fabric

21   ports of a selected number of the switching elements; and

22   the scheduling data is processed according to a priority such that the selected

23   switching elements transfer the scheduling data through the bi-directional

24   switched fabric ports before transferring data associated with the scheduled

25   requests.

1　2.　The network switch as recited in claim 1, wherein the at least one switching element

2　　　further comprises a disk storage device connected to the disk storage interface.

1　3.　The network switch as recited in claim 1, wherein:

2　　　(a) each disk storage device comprises a disk and a head; and

3　　　(b) the scheduling data comprises a radial location of the head relative to the disk within

4　　　　　each disk storage device.

1　4.　The network switch as recited in claim 3, wherein the scheduling data further comprises a

2　　　circumferential location of the head relative to the disk within each disk drive.

1　5.　The network switch as recited in claim 1, wherein the switching elements further

2　　　comprise a plurality of virtual lanes, wherein:

3　　　(a) at least one of the virtual lanes is reserved for transferring data associated with the

4　　　　　scheduled requests;

5　　　(b) at least one of the virtual lanes is reserved for transferring the scheduling data; and

6　　　(c) the virtual lane for transferring the scheduling data comprises a higher priority than

7　　　　　the virtual lane for transferring the data associated with the scheduled requests.

1　6.　The network switch as recited in claim 1, wherein the scheduling data is communicated to

2　　　the memory through the bi-directional switched fabric ports according to an isochronous

3　　　protocol.

1   7.   A method of resolving requests from a plurality of host initiators by scheduling access to

2   a plurality of disk storage devices connected to a network switch, the network switch

3   comprising a switched fabric comprising a plurality of switching elements, the method

4   comprising the steps of:

5   (a) transmitting through the switching elements scheduling data from the plurality of

6   disk storage devices to a memory;

7   (b) evaluating the scheduling data in order to schedule the requests from the host

8   initiators; and

9   (c) transmitting data associated with the scheduled requests through the switching

10   elements to the plurality of disk storage devices,

11   wherein the scheduling data is processed according to a priority such that the

12   switching elements transfer the scheduling data before transferring data associated

13   with the scheduled requests.

1   8.   The method as recited in claim 7, wherein:

2   (a) each disk storage device comprises a disk and a head; and

3   (b) the scheduling data comprises a radial location of the head relative to the disk within

4   each disk storage device.

1   9.   The method as recited in claim 8, wherein the scheduling data further comprises a

2   circumferential location of the head relative to the disk within each disk drive.

1   10.   The method as recited in claim 7, wherein the switching elements further comprise a

2   plurality of virtual lanes, wherein:

3   (a) at least one of the virtual lanes is reserved for transferring data associated with the

4   scheduled requests;

5   (b) at least one of the virtual lanes is reserved for transferring the scheduling data; and

6   (c) the virtual lane for transferring the scheduling data comprises a higher priority than

7   the virtual lane for transferring the data associated with the scheduled requests.

1   11.   The method as recited in claim 7, wherein the scheduling data is communicated to the

2   memory through the switching elements according to an isochronous protocol.